

Amended Abstract

This invention relates to a A process for transfer of transferring at least one a thin film of solid material delimited in an initial substrate (20). It comprises the following steps: a step in which a forming a layer of inclusions (21) is formed in the initial substrate (20) at a depth corresponding to the required thickness of the thin film, these inclusions being designed to form to create traps for gaseous compounds which will subsequently be implanted. Further, the inclusions can be in the form of one or more layers deposited by a chemical vapor deposition, epitaxial growth, ion sputtering, or a stressed region or layer formed by any of the aforementioned processes. The inclusions can also be a region formed by heat treatment of an initial support or by heat treatment of a layer formed by any of the aforementioned processes, or by etching cavities in a layer. In a subsequent step for implantation of the said gaseous compounds are introduced, in a manner to convey the gaseous species into the layer of inclusions, the dose of implanted gaseous compounds being sufficient to cause the formation of to form micro-cavities likely to that form a fracture plane along which the thin film can be separated from the a remainder of the substrate.

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A process for transferring a thin film includes forming a layer of inclusions to create traps for gaseous compounds. The inclusions can be in the form of one or more implanted regions that function as confinement layers configured to trap implanted species. Further, the inclusions can be in the form of one or more layers deposited by a chemical vapor deposition, epitaxial growth, ion sputtering, or a stressed region or layer formed by any of the aforementioned processes. The inclusions can also be a region formed by heat treatment of an initial support or by heat treatment of a layer formed by any of the aforementioned processes, or by etching cavities in a layer. In a subsequent step, gaseous compounds are introduced into the layer of inclusions to form micro-cavities that form a fracture plane along which the thin film can be separated from a remainder of the substrate.